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| 09/818,513      | 03/28/2001  | Shunpei Yamazaki     | 740756-2289         | 1212             |

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EXAMINER

WINTER, GENTLE E

|          |              |
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| ART UNIT | PAPER NUMBER |
|----------|--------------|

1746

DATE MAILED: 03/13/2003

13

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/818,513

Applicant(s)

YAMAZAKI ET AL.

Examiner

Gentle E. Winter

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 March 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 16,17 and 27-46 is/are pending in the application.
- 4a) Of the above claim(s) 39-46 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 16,17 and 27-38 is/are rejected.
- 7) ☒ Claim(s) 27-38 is/are objected to.
- 8) ☒ Claim(s) 39-46 are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 July 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Claim Objections***

1. The numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not).
2. Misnumbered claims 18-37 been renumbered 27-46. To avoid confusion, please do not refer to the improperly numbered claims in *any manner* in future actions.
3. Claims 16, 17, and 27-38 are objected to because of the following informalities: "said at least one" fails to state a noun, however contextually "electromagnetic radiation source".

### ***Election/Restrictions***

4. Applicant's election without traverse of claim 16 and 17 in Paper No. 10 is acknowledged.
5. Newly submitted claims 39-46 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: The original claims were directed to a method of manufacturing an electro-optical device and only include cleaning steps. The new claims are drawn to a method of manufacturing a display device including the

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formation of a display device with a coating that is produced on a base by absorption or condensation of, or reaction with, a vapor or gas.

6. The invention of claims 16, 17, and 27-38 has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 39-46 are withdrawn from further consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03. Claim 17 has been treated on the merits, despite being drawn to a new invention, because searching the new invention does not present an undue burden on the examiner.

***Claim Rejections - 35 USC § 112***

7. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

8. Claims 16, 17 and 27-38 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Specifically, it is not clear how the method steps of irradiating a component in a film forming chamber light, thereby sublimating a vapor deposition material adhering to the component and exhausting the sublimated material will produce a useful article.

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 16-17, 27-31, and 33-37 are rejected under 35 U.S.C. 102(e) as being anticipated by United States Patent Application Publication No. US 2001/0009154 to Nguyen (hereinafter Nguyen). Claims 16 and 17 disclose irradiating a component provided in a film-forming chamber with electromagnetic radiation thereby sublimating a vapor deposition material adhering to the component and exhausting the sublimated vapor deposition material. Nguyen discloses in figure 2 and associated text, the steps of irradiating a component provided in a film-forming chamber (specifically enumerated as a wafer chuck) with electromagnetic radiation (disclosed as heating the chamber surface step 100b) inherent in the heating is presence of IR radiation. The steps result in the sublimation of a vapor deposition material (a copper compound) adhering to the component and exhausting the sublimated vapor deposition material described as removing the volatilized byproducts from the chamber. See e.g. page 3 paragraph 33, and figure 2 and associated text.

3. As to claim 27 and 33, disclosing that the IR light radiate by using a light source in the film-forming chamber, the wafer chuck is heated and because it is hot will radiate IR radiation.

4. As to claims 28 and 34 disclosing that the IR source is oblong, the wafer chuck is disclosed to accommodate semiconductor wafers, which are of a generally circular shape. The generally circular shape fits within the ambit of oblong.

5. As to claims 29 and 35 disclosing that a halogen containing gas is supplied during the sublimating step, Nguyen disclosed the use of hexafluoroacetylacetonate which includes the halogen, fluorine.

6. As to claims 30, 31, 36, and 37 disclosing forming an oxygen plasma during exhausting, Nguyen discloses using a RF energy to generate a high flux field, creating an oxygen plasma to further the oxidation process the exhausting step is as taught above, with respect to claim 16 and claim 17.

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 32 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nguyen and United States Patent No. 6132280 to Tanabe et al (Tanabe). Each and every limitation of claims 32 and 38 is identically disclosed in Nguyen as set forth above, except that

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Nguyen fails to disclose an organic light emitting material (in the context of the present application), Nguyen does disclose the removal metal-organic deposition by products, and as stated above, all the material in the chamber emits light in the IR range. The deposited layer is disclosed to include a metal/organic material, however, "light emitting material" has been construed in an art-recognized manner that is narrower than its more broad literal definition. Light emitting material has come mean a material that generates electromagnetic radiation (often in or around the visible spectrum) when electricity is applied to the material. Tanabe is provided for the teaching of sublimating an organic light emitting material something that is not explicitly disclosed by Nguyen.

3. Tanabe discloses an organic EL display device fabrication system which further comprises a cleaning chamber connected to said loading side normal-pressure delivery chamber for cleaning said substrate at normal pressure, in which cleaning chamber said substrate is irradiated with ultraviolet radiation and exposed to ozone. The artisan would have been motivated to use the system of Tanabe in the manner disclosed by Nguyen to exhaust the sublimated material in an attempt to conclude the cleaning operation and avoid the redeposition of the organic material. See Tanabe e.g. at column 3, line 44 *et seq.* Also see example 1 see e.g. column 13, line 65 *et seq.* disclosing the manner in which the chamber is used prior to the cleaning steps.

### ***Conclusion***

4. The claims are written so broadly that the citation of relevant art would amount to an exercise of most reciting chamber in-situ based chamber cleaning systems. The list would

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include thousands of patents, journal articles, and textbooks. Thus, at this time, no additional references are seemingly appropriate.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gentle E. Winter whose telephone number is (703) 305-3403. The examiner can normally be reached on Monday-Friday 7:00-3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy P. Gulakowski can be reached on (703) 308-4333. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Gentle E. Winter  
Examiner  
Art Unit 1746

March 8, 2003

  
RANDY GULAKOWSKI  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1700